GEOGRAPHIC SCHOOL BULLETINS

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VOLUME 37, NUMBER 23, MARCH 23, 1959 . . . *To Know This World, Its Life*

- Deciphering the Dead Sea Scrolls
- Stamps—The World in Your Album
- Automation Speeds the Mail
- Portugal's Sun-Splashed Madeira

EASTER VACATION—No School Bulletins next week. Publication resumes April 6.

PRAYERFUL BATHING cleansed sin from the writers of the Dead Sea Scrolls

PAINTING BY P. V. BIANCHI

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NGS MAP

KHIRBAT QUMRĀN, monastery of the exiled Essenes, lies near the Dead Sea in Jordan. Near by are the 11 caves where the Dead Sea Scrolls have been unearthed.

The Dead Sea, 1,286 feet below sea level, is 25 per cent salt. Essenes had to rely on the near-by oasis, 'Ayn Fashkhah, for water.

Contained in the scrolls are the life, times, and writings of a Jewish group—most probably Essenes—who lived an ascetic life near the Dead Sea before Christ was born. Religious purists, they left Jerusalem about 100 B.C. because a corrupt priesthood had introduced paganism to the ancient Jewish customs.

The group retreated to a terrace overlooking the northwest corner of the Dead Sea, less than 16 miles from Jerusalem and Bethlehem. There they built a self-sufficient community around a structure reminiscent of a medieval monastery (below). They constructed a community center—a building complex 128 yards long by 80 yards wide—containing pantry, bakery, kitchens, pottery kiln and workshops, store-

GEORGE R. THOMPSON

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Dead Sea Scrolls Shed Light on Bible

WITH THE DRY DESERT SUN for a desk lamp, bearded scribes take dictation from a reader in longhand Hebrew (above). Other scribes recopy treasured writings. One washes his hands before writing JHWH, the sacred name of God. The time is 2,000 years ago. The place, Palestine.

Today, around the corner from Bethlehem's Church of the Nativity where Jesus is supposed to have been born, a tarbooshed, mustached Syrian suns himself on a straw stool in front of his cobbler's shop. His name is Khalil Iskander Shahin, but passers-by call him Kando. In his breast pocket he carries a cheap red notebook. Between its thumb-worn pages may be sandwiched some scraps of these same writings, keys to one of the most fascinating romances of the century.

Kando is the middle man in business dealings that concern the now famous Dead Sea Scrolls. Mammoth financial operations have taken place in the dimly-lit interior of his shop.

Camel-riding Bedouins who live in black goatskin tents hunt the scrolls as they tend their goats around the Dead Sea area. The Jordanian government granted the tribesmen a monopoly in the area. They bring their finds in cigarette boxes to Kando, who sells them to scholars in the Palestine Archaeological Museum, Jerusalem.

In a secluded room of the museum, scholars mate tens of thousands of fragments to reconstruct the writings of the ancients. Since the first scrolls were unearthed by a Bedouin shepherd boy in 1947, some 600 works, including all the books of the Old Testament except Esther, have been found in 11 caves.

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WILLIAM L. REED

prophecy of Isaiah (40:3): "Prepare ye the way of the Lord, make straight in the desert a highway for our God."

What finally happened to the Essenes is unknown. Romans invaded their monastery in 68 A.D. and the sect vanished. Whether they died at the hands of the invaders or scattered before the onslaught is a matter for conjecture.

Today Bedouin tribesmen still diligently scour the desert for more scrolls as they follow their goats. The added income has made it possible for them to embark on a building program. New stone buildings spring up in the formerly barren sand.

The Bedouins turn their discoveries over to Kando who sells the bits to the

NATIONAL GEOGRAPHIC PHOTOGRAPHER JOSEPH BAYLOR ROBERTS

BURIED TREASURE is described in the two copper scrolls above. So far neither archeologists nor scroll-hunting Bedouins have found the prize. Scientists coated the scrolls with plastic, and cut them with special saws before they could be read. Right, Father Jean Starcky, expert in Aramaic, one of the everyday tongues of ancient Judaea and the language of Jesus, studies scroll fragments. The French priest is one of the team of scholars putting together pieces of the most important religious jigsaw puzzle of the century.

Palestine Archaeological Museum.

Scholars from five nations—Germany, Poland, France, Great Britain, and the United States—tirelessly study the fragmentary records of the sect so far discovered. Some of the fragments are leather, some, papyrus. Some are no bigger than a fingernail. Some are so fragile that the touch of a camel's hair brush would turn them to dust.

It may be generations before the scholars can completely evaluate the meaning of the Dead Sea Scrolls.

However, what they have already learned adds invaluable links to the chain of Biblical history. Tests indicate that the scrolls are at least 1,900 years old—written 1,000 years before the oldest known Hebrew Bible.

The scrolls make possible a new understanding of the religious climate into which Jesus was born. They provide us with new insight into the elements of Judaism which influenced Christianity—the Essenes and the early Christians shared many common customs. L.B.

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rooms, the scriptorium, a council chamber, cisterns, baths, flour mills, ovens, a smithy, and a refectory. Scientists believe the members lived in tents and caves outside the walls, congregating in the center only for community functions.

Members of the sect shared common property, worshiped together, and ate their meals in common in the refectory. Meals took on the aspect of a religious service as a priest read scrolls to the members eating their simple fare (above).

Their lives revolved around a religious purity which included regular baptism, possibly more than once a day (see cover). It symbolized the sinlessness of the Essene who also periodically washed and sanctified his buildings. With water at a premium in the desert, the Essenes were shrewd enough to establish their community only two miles north of the green oasis 'Ayn Fashkhah. Later they built an aqueduct to channel water to the settlement from the western highlands.

The founder of the cult was a priest. His followers called him "the Teacher of Righteousness, to whom God made known all the mysteries of the words of His servants the prophets." He believed judgment day was upon the world, a day when God would come to punish the wicked and reward the just. The Essenes called themselves "The Children of Light," as opposed to the "Children of Darkness."

The Essene government imitated somewhat a democracy—all full members of the assembly could speak in their proper turn according to rank. But a small group had the final say. The laws of the community describe a council of 12 laymen and three priests, possibly under the direction of a supervisor, who met in a secluded council chamber.

The sect lived such an austere life that even in death they scorned the usual adornments. The custom of the day dictated that jewelry, tools, weapons, pots, and lamps be placed in tombs to be used by the spirit, symbolically, in the next world. Tombs of the Essenes, except those of the women, are bare.

In the austerity of the desert, supplemented by the sternness of the Essene law, the sect awaited their deliverance as "The Children of Light" at the hands of a Messiah. The Essenes believed they would be His host and fulfill the ancient

velt spent many evenings in his study with tweezers and magnifying glass, poring over his more than 100 albums.

Collectors may begin with small, inexpensive packets of stamps, buying them with spare pennies. Advanced philatelists seek out costly rarities—the one-cent British Guiana stamp of 1856 cannot be bought for $100,000.

It all began with the "penny black," the first postage stamp issued by England, in 1840. Soon British stamps chronicled the reign of Queen Victoria. Across the Channel, French stamps showed the rise and fall of Louis Napoleon. America's first stamp appeared in 1847.

Many governments reap handsome profits from stamps. For example, the tiny principality of Liechtenstein depends on a "stamp economy" for a fifth of its revenue. On lonely Pitcairn Island in the Pacific, all government money comes from stamp sales.

The Japanese government, anxious to cash in on the philatelical bonanza, issues a commemorative stamp nearly every week. None of these created such a sensation as the beautiful one reproduced from a famous woodcut, top left. People stood in line for hours to buy it.

The philatelic portrait gallery ranges poets and novelists, musicians and artists, doctors and scientists alongside kings, queens, and presidents. This offers a challenge to the specialist who collects stamps with a particular theme.

The handsome Russian stamp, left, showing a bright satellite streaking across the sky, will interest the scientific stamp collector. This commemorates the launching of the first sputnik.

An animal collection would not be complete without the gazelle and leopard stamps from French Somaliland, left.

Stamps relating to sports and games could form the nucleus of a fascinating collection. The Greeks, French, Norwegians, and Austrians have all issued handsome stamps to announce Olympic games and sports festivals. K.C.

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NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

Geography, History Ride the Mails

COVERED WAGONS ROLL across cactus-spiked desert under the designer's brush, above, as another stamp is born. Modeling his work on illustrations in the *National Geographic*, he prepares the issue that announced to the world the 100th anniversary of the Gadsden Purchase. As these tiny, colorful scraps of paper rode letters across continents and seas, people learned a little more about the United States and how the West was settled.

Sweeping along with the tides of history, the postage stamp chronicles the world's events—in geography, politics, science, and the arts.

A new State joins the Union; science triumphs over a disease; the Olympics are held in a faraway land; a great ship is launched. There is sure to be a stamp to spread the news. Philatelists (stamp collectors) add to their albums fascinating records of history and geography, and often discover that they have a knowledge of the world far in advance of the average person.

The Ghana stamps, at bottom, are a superb example of history in the making. When a British colony, Ghana used stamps bearing a picture of Queen Elizabeth II. On winning independence in 1957, it overprinted these with lettering to announce that fact. These temporary stamps served until new ones, with the Prime Minister's portrait and the nation's new name, could be issued. But even this stamp (right) is caught up in the race of events, for its cancellation bears the country's old imperial name, "Gold Coast."

Stamps can play an important role in history. When the United States was planning the canal from the Atlantic to the Pacific Oceans, a great debate raged in Congress as to whether the route should pass through Panama or Nicaragua. A partisan of the Panama route noted that the current stamps of Nicaragua bore a picture of a volcano. "A volcanic country, subject to earthquakes, is no place for a canal," he argued. Congress was impressed. For this and other reasons, Panama won out.

Stamp collecting is the most popular hobby on earth. While a rainy day sees many American school children working on their albums, a quiet hour at Buckingham Palace may find the Queen adding new stamps to hers. President Franklin Roose-

U. S. POST OFFICE DEPARTMENT

NO HANDS touch letters as they whiz through City Post Office's electronic sorter. By punching a three-digit code for destination of each letter, six operators can handle 18,000 an hour. As letter moves along conveyer above girls' heads, memory key tips it into proper pocket. Clerks in back dispatch accumulated letters.

Franklin introduced stagecoaches and ocean packets to hurry the mail, latter-day Postmasters General have inaugurated "Highway Post Office" buses and short-hop helicopters.

The buses, dubbed "hypos," were introduced in 1941. They do not operate as "retail stores," selling stamps along the wayside. They stop only at post offices, operate on tight schedules.

Like railway mail cars, the buses are specially fitted out to cull mail en route. The mail train remains the busiest postman of all, the nation's 15,000 railway mail clerks an elite group. Balancing agilely in the aisle of a swaying car, clerks toss letters unerringly into the proper "case." Mail handling on the run saves valuable time in post offices.

Helicopters, whose use is not yet widespread in postal service, pick up and deliver mail from suburban points to downtown Los Angeles, New York, and Chicago, below. Taking off from a snow-covered airfield, this 'copter will plunk down nine minutes later at the rooftop heliport of Chicago's General Post Office with 500 pounds of mail.

Entire vehicle families have been bred in the Department's stable. The Truckster, a scooter with the open end of a pickup truck, and the beetlelike Mailster, a three-wheeled, enclosed type, have become common on city streets. Even some bicycles have been bought for foot-sore postmen.

Each new vehicle gets the familiar red, white, and blue paint job. The colors not only make the vehicles distinctive, Post Office officials happily report, but drivers have fewer accidents with their bright cars. A.P.M.

See also: July, 1954 National Geographic Magazine.

NATIONAL GEOGRAPHIC PHOTOGRAPHER VOLKMAR WENTZEL

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FAST MAIL: Ben Franklin Would Gasp

TO A HARRIED postal clerk, the rainbow of stamps on the preceding pages is a sure omen of a coming blizzard of mail.

In the United States alone, citizens lick 23 billion stamps a year, plant them firmly on enough pieces of mail to reward every man, woman, and child with a letter or package every day of the year.

Twice as much mail flutters down on the post office today as in 1940. Drifts pile so high in the main Boston post office, for example, that employees are forced to a basement boiler room to eat lunch.

To cope with this storm, the Post Office Department works to speed or eliminate each of the 17 handlings a letter goes through between mailing and opening.

DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

One small step in this direction is the caddy cart. Postman Robert Bancroft of Washington, D. C., his shoulders heaped high with his usual morning's stack of mail, casts a covetous glance at a colleague's aluminum cart. Thousands of the rubber-tired caddies now roll through suburban districts.

But in a nation that sends and receives more mail than the rest of the world combined, smoothing the flow will take more than caddy carts. Unlike shoveling snow, handling mail requires careful sorting of each flake.

Early this month President Eisenhower pushed a button that started a fully mechanized "pilot model" operation at Washington's City Post Office.

One of the stars of the show is the electronic, semiautomatic letter sorter (below). Another example of magic mail handling is "Fast Mac," an ingenious "facing-cancelling" machine. Workers feed it bundles of letters. "Fast Mac" scans each to see where the stamp is, pushes it off to the right or left. If the letter is upside down, the machine discovers this, flips it into proper position, and hands it along to another machine for cancellation.

Other bits of sleight of hand in the Washington mailroom: a parcel post sorting machine; five miles of overhead conveyer belts that trundle the mail between sorting areas.

Just over the horizon, postal engineers see a machine that will read typescript electronically. Sixty per cent of all first-class mail is addressed by typewriter.

But sorting mail is only half the problem. Letters are worthless until delivered. The steps the Department is taking to speed delivery would gladden the heart of that old Deputy Postmaster General of the Colonies, Benjamin Franklin. Where

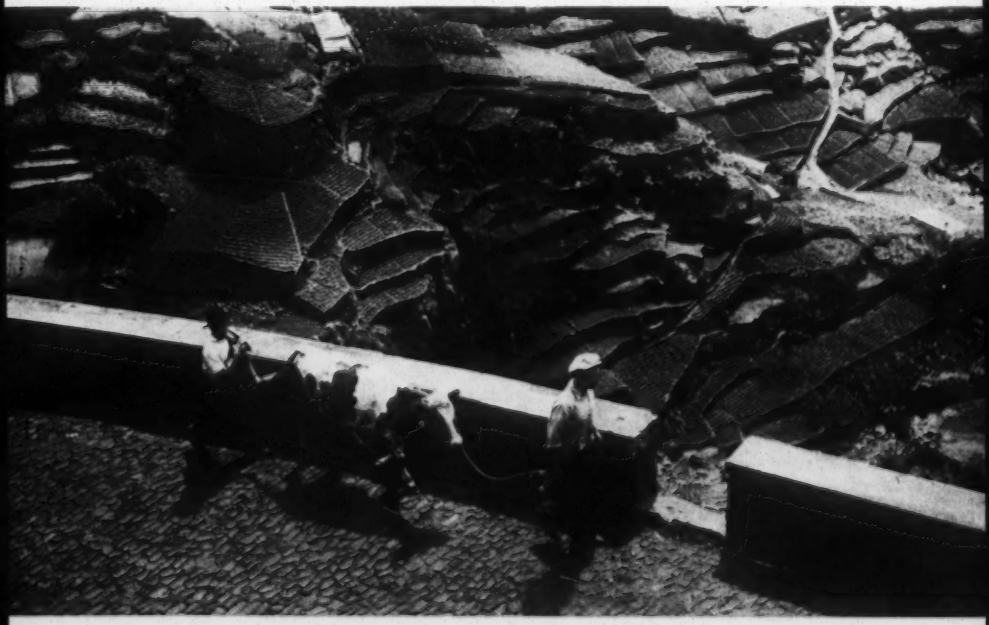
The finished pieces, collected and inspected in Funchal, reflect the sensitivity of the people to the beauty and color of their island.

But the rich aspect of the island is deceiving. While nearly any crop can be grown and the variety gives one an impression of lushness, some of the space it grows on is no larger than an embroidered Madeira tablecloth. Of volcanic origin, Madeira is mountainous. Only one-third of it can be cultivated, and that with great difficulty.

Most of the arable land climbs steep slopes. To cultivate it, farmers must carve out terraces, some of them as high as 25 feet, on which to grow their potatoes, onions, tomatoes, grapes, sugar cane, French beans. Mechanized equipment is useless.

Madeirans do not stop with putting every inch of usable land to work. They also use the same inches twice by planting cabbage or sweet potatoes under high trellised vines. For the farmer, the lack of rain could be disastrous. But Madeirans solved the problem by an ingenious irrigation system. *Levadas,* or canals, built from cliffs to lowlands, collect and channel the mountain spring water to farms. Irrigation is so precious that most of the litigation in the courts concerns water rights.

Although thousands of cows provide nearly five million gallons of milk a year, the animal itself is seldom seen. Below, boys take her to a vaccination center, but her usual place is a thatched hut near the farmer's house. Her food is brought to her. Land is too scarce to use as pasture and the cow might fall off a terrace.



In the bottoms of many ravines lie the osier beds, source of Madeira's famed wicker industry. Camacha streets are lined with workshops, bundles of osier lying outside waiting for the expert craftsmen to weave into wicker articles, from lunch baskets, or souvenirs, to garden furniture for export.

Life is far from easy for Madeirans. Dawn-to-dusk labor on a tiny cultivated terrace brings in scant rewards. Children must supplement the family income by the age of six, working part time, going to school part time. Yet the Madeiran always has a smile and an aura of contentment. Perhaps he has absorbed the sunny disposition of his island.

L.B.

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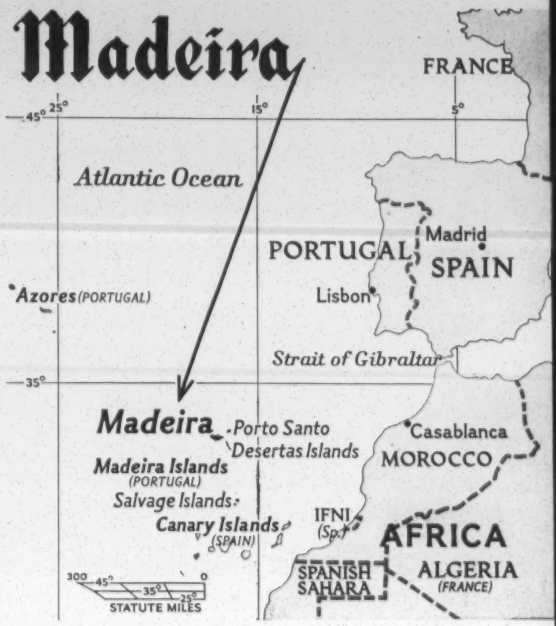
Madeira



THE PORTUGUESE ISLAND of Madeira has a split personality. To passing ships it shows barren 2,000-foot cliffs, and peaks shrouded in gloomy clouds. To the shore visitor, it displays one of the sunniest dispositions in the world.

Gay pink and yellow houses splash color in the capital city of Funchal. Flower sellers in bright traditional costume—full red skirt, white blouse with puffed sleeves, cape, and pigtail cap—give a lilt to the market place as they vend their wares: begonias, roses, hibiscus, and geraniums. Jasmine and honeysuckle perfume the air.

Rain falls on only 54 days of the year, and climate is pleasantly subtropical. Although the island was discovered, settled, and is administered by the Portuguese, it is a favorite holiday spot for the British (see back cover).

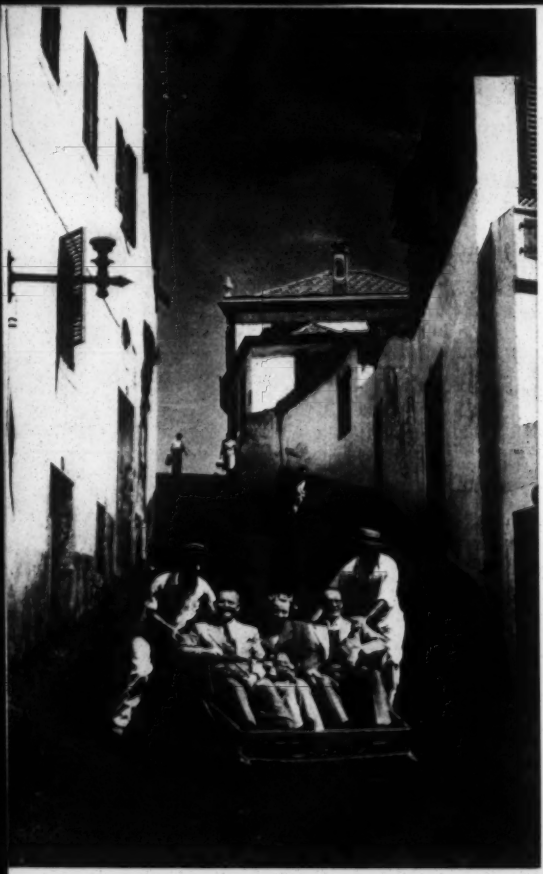
Madeira is the largest of the Madeira islands. It lies 400 miles from the coast of African Morocco and 575 miles from Lisbon (see map). João Gonçalves Zarco, who claimed it for Portugal, named it Madeira, meaning wood, in honor of its forests of giant laurel. Some 280,000 people crowded into Madeira's 308 square miles make it one of the most densely populated agricultural areas in the world.

PHOTOGRAPHS BY DAVID S. BOYER, NATIONAL GEOGRAPHIC STAFF

One of the industries which help the thick population keep its head above water economically is the island's famous embroidery.

But look for no smoke-stacked factories or sweatshops. Instead, peasant women, their needles flying over intricately detailed patterns, congregate to sew and gossip while the men work in the fields. In kindergartens (left) children study reading and writing in the morning, embroidery in the afternoon.

Embroidery is a home industry. Export firms distribute patterns and materials to the 70,000 embroideresses on Madeira. The women get 3½ cents per 50 stitches.



AFASTA—"OUT OF THE WAY"—shouts an attendant and crowds scatter in front of a toboggan careening down the cobbles of a Funchal street, left. Runners are greased with tallow but it does not stop them from occasionally smoking and screaming as the sledge races 2,000 feet down a slope. A ride in the sledge is a prime tourist attraction. However, it is not only tourists who use wheelless vehicles. Drays on runners haul wine, baskets, bananas, and sugar cane over Madeiran streets.

Wine is the product most often associated with the Island of Madeira. Based on vines from the island of Crete, wine-making is a home industry. Wine carriers trudge to Funchal cellars, 100 pounds or more of wine in goatskins on their backs. Below, goatskins are emptied and sugar content is checked. The annual Madeira export of dessert wines, chiefly to Scandinavia, totals nearly three million quarts. September harvest time is the big season of the year. The whole family, freshly scrubbed and in clean clothes, jumps into the tank to crush the juice from the fruit. A fall into the juice is good cause for a laugh.

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